NWS FORM E-5 (11-88) (PRES. by NWS Instruction 10-924)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA) **WFO Jackson, Mississippi**
MONTHLY REPORT OF HYDROLOGIC CONDITIONS		REPORT FOR: MONTH: **August** YEAR: **2010**
TO: Hydrometeorological Information Center, W/OH2 NOAA / National Weather Service 1325 East West Highway, Room 7230 Silver Spring, MD 20910-3283		SIGNATURE **Alan E. Gerard, Meteorologist In-Charge** DATE **09/14/2010**

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)

X **An X inside this box indicates that no river flooding occurred within this hydrologic service area.**

Synopsis...

Like July, the month of August was hot and humid with scattered showers and thunderstorms most days across the Hydrologic Service Area (HSA). The most significant weather during the month was caused by the remnants of Tropical Depression Five (TD5) which caused flash flooding in Catahoula, Tensas, and Concordia Parishes in Louisiana, as well as in Adams and Scott Counties in Mississippi.

The month opened with hot temperatures across the HSA. Temperatures for the first four to five days of the month were in the upper 90s to around 105 degrees in some areas. A frontal system dropped down to a Eudora, AR to Meridian, MS line by the morning of the 2nd. By the 4th, the frontal system weakened and high pressure took control. Only isolated to scattered showers and thunderstorms occurred over the area through the 4th.

From the 5th to the 7th, a weakening frontal system moved into the area kicking off some scattered heavy showers and thunderstorms. Rainfall amounts from 1.00 to 2.00 inches were common where rainfall occurred. Some much need rainfall, from 1.00 to 3.00 inches, occurred over the drought region of Richland, Morehouse, northern Franklin, and western portions of West Carroll Parishes in Northeast Louisiana on the 6th. Also, some much needed rainfall from 1.50 to 2.50 inches occurred over Bolivar County in Mississippi on the 7th. Weak high pressure remained over the region through the 10th. Temperatures in the low to mid 90s and scattered to isolated showers and thunderstorms occurred over this period across the HSA. Little or no rainfall was reported on the 11th across the area.

Tropical Depression Five (TD5) formed in the Southeast Gulf of Mexico on the 10th. From the 11th into the 12th, the depression approached the Southeast Louisiana and Mississippi Coastlines. The system moved into south Mississippi and then to East Central Mississippi by the 13th producing scattered heavy showers and thunderstorms south and east of the Natchez Trace. Some flash flooding was reported in Southeast Mississippi. By the morning of the 14th, the remnants of TD5 had progressed into East Alabama. The depression left a tropical airmass entrenched over much of the southeastern half of the HSA. Scattered showers and thunderstorms continued to develop over the region through the 15th. By the morning of the 16th, the

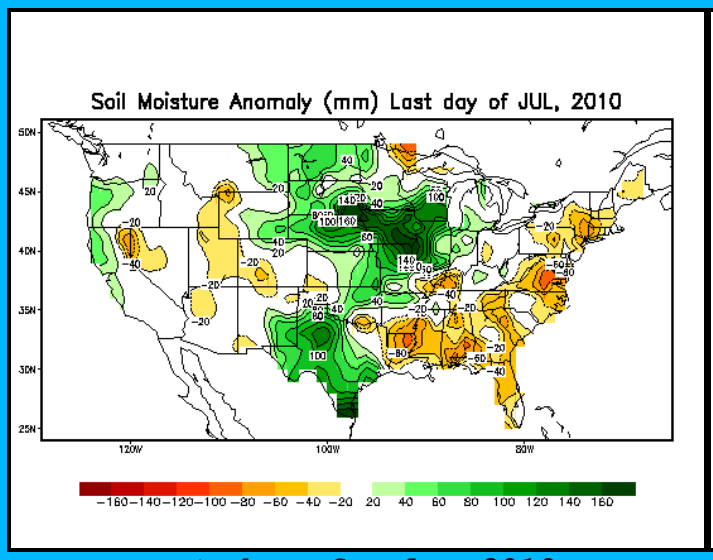
remnants of TD5 moved back over the northern Gulf of Mexico and began to reorganize just before it moved into Southeast Louisiana late on the 16th. Another weak frontal boundary pushed into the HSA on the 15th, this front and the tropical air in place produced scattered showers and thunderstorms across much of the area on the 15th into the 16th. The weak circulation of TD5 moved slowly to north of Baton Rouge by the early morning of the 18th. The system turned slowly to the northeast producing heavy rainfall with flash flooding over Concordia, Catahoula, and Tensas Parishes in Louisiana and Adams County in Southwest Mississippi. Clayton, in Concordia Parish, reported 11.20 inches of rainfall with this storm. In Adams County Mississippi, heavy rainfall caused water to flow over the top of Robins Lake Dam in southern Adams. Some CoCoRaHS rainfall observers in southern Adams County reported amounts of 10.98 and 6.65 inches. Natchez airport only reported 4.32 inches. The remnants slowly drifted northeast and by the morning of the 19th were in Scott County where from 3.00 to 5.00 inches of rain fell causing flash flooding throughout the county. The remnants drifted out of the area and into Alabama by late afternoon of the 19th.

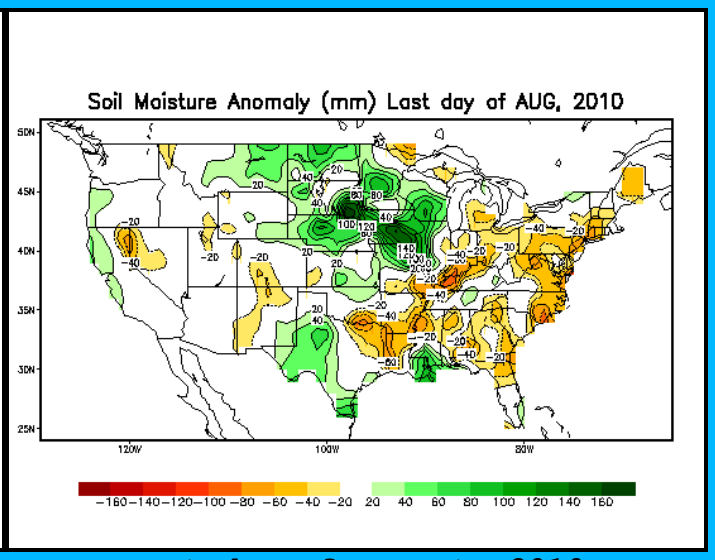
From the 20th into the 22nd, weak high pressure controlled weather across the HSA with only isolated showers. By the morning of the 23rd, a cold front had pushed to a line from Eudora, AR to Meridian, MS. Showers and thundershowers dumped 0.50 to 2.50 inches across the HSA. By the morning of the 24th, the front moved off the Mississippi Coast. Another mostly dry front pushed to the Coast by the morning of the 26th and remained along the coast through the 29th. High pressure centered over the Midwest built into much of the region for the remainder of the month. Little or no rainfall occurred from 24th to 26th. From the 27th until the end of the month, high pressure shifted to the Middle Atlantic States allowing a very humid return flow to occur from the Gulf of Mexico. Scattered rainfall occurred across the area during this time. Rainfall amounts were mostly in the 0.25 to 1.50 inch range.

River and Soil Conditions...

The driest areas in the HSA extended from Chicot County, Arkansas to Washington and southern Bolivar to South and Central Sunflower counties in Mississippi where rainfall ranged from 20 to 50 percent of normal. Some rainfall over northern portions of Northeast Louisiana slightly eased drought condition. Some areas received above normal rainfall while others experienced rainfall totals from 25 to 75 percent of normal. Extreme southern portions of Northeast Louisiana exceeded 300 percent of normal rainfall and thus dry conditions were alleviated. Much of the area north of the Natchez Trace and east of I-55 also had rainfall totals ranging from 25 to 75 percent of normal for the month. Areas south of the Natchez Trace received rainfall ranging from 75 to 300+ percent of normal.

Soil moisture improved across Northeast Louisiana with soil moisture deficits ranging from 1.00 to 3.00 inches. Soil moisture deficits ranged from 2.00 to 3.00 inches across Southeast Arkansas. Soil moisture deficits in Mississippi north of I-20 ranged from 1.00 to 3.00 inches. Normal to above normal soil conditions were noted south of I-20.

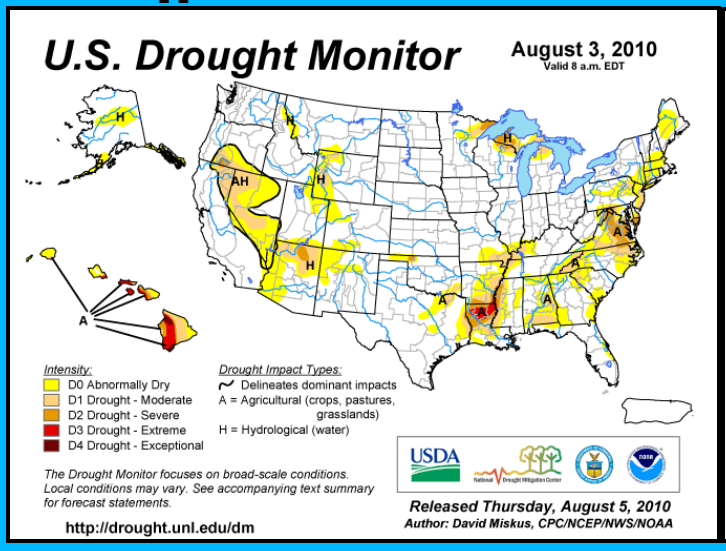


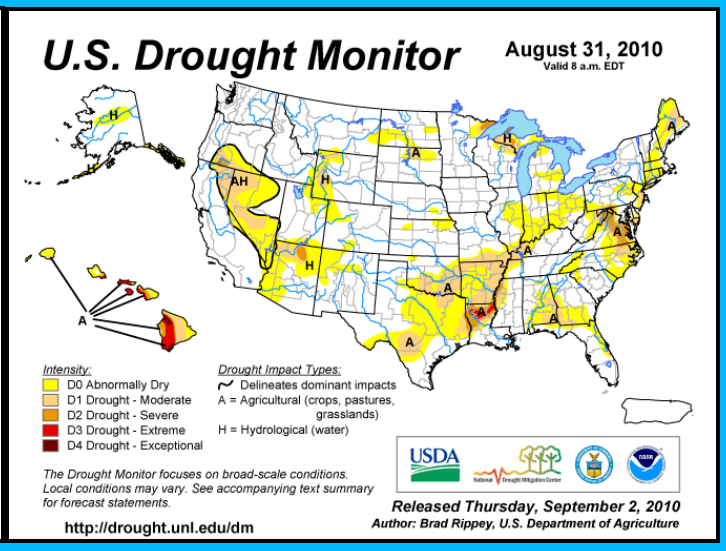


Last day of July, 2010 **Last day of August, 2010**

Soil Moisture anomaly (departure from normal): (25.4mm = 1 inch)

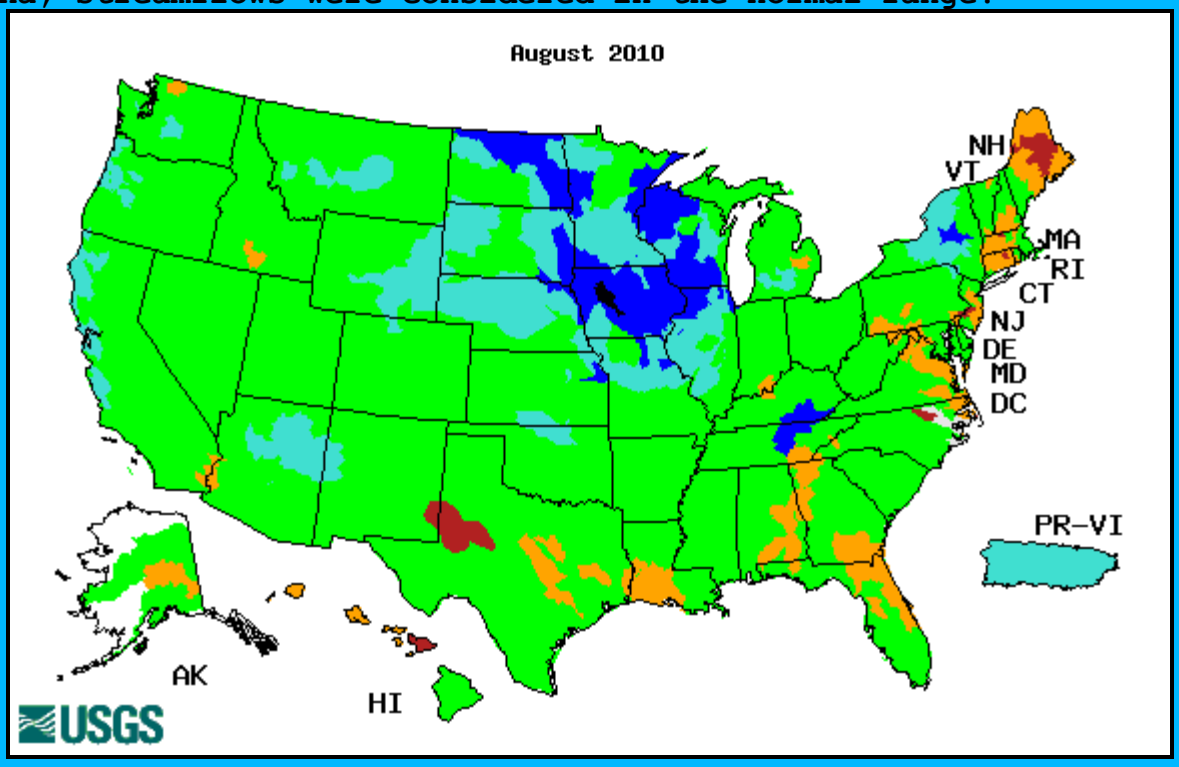
A comparison of the August 3rd U.S. Drought Monitor to the August 31st U.S. Drought Monitor showed extreme drought conditions decreasing to a narrow band in northern portions of Northeast Louisiana. Severe drought conditions contracted to only a small portion of northern Northeast Louisiana and a small part of the Yazoo Delta in Mississippi. Moderate drought conditions remained only in northern Northeast Louisiana and the Yazoo Delta Region in Mississippi.

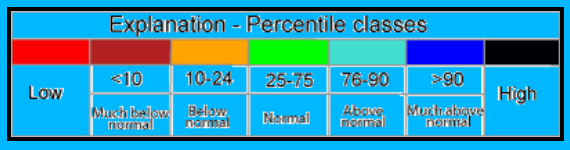




AUGUST 3, 2010 **August 31, 2010**

The United States Geological Survey's (USGS) August 2010 river streamflow records were compared with all historical August streamflow records. Most river systems showed streamflow in the normal range. In Northeast Louisiana, streamflows were considered in the normal range.





Even with heavy rainfall in scattered locations throughout the HSA, only minor rises were observed along the Pearl, Pascagoula, Big Black, and Yazoo River systems. Little changes occurred during the month along the rivers and bayous of Northeast Louisiana and along the Tombigbee River system within the HSA.

The Mississippi River continued to recede during much of the month.

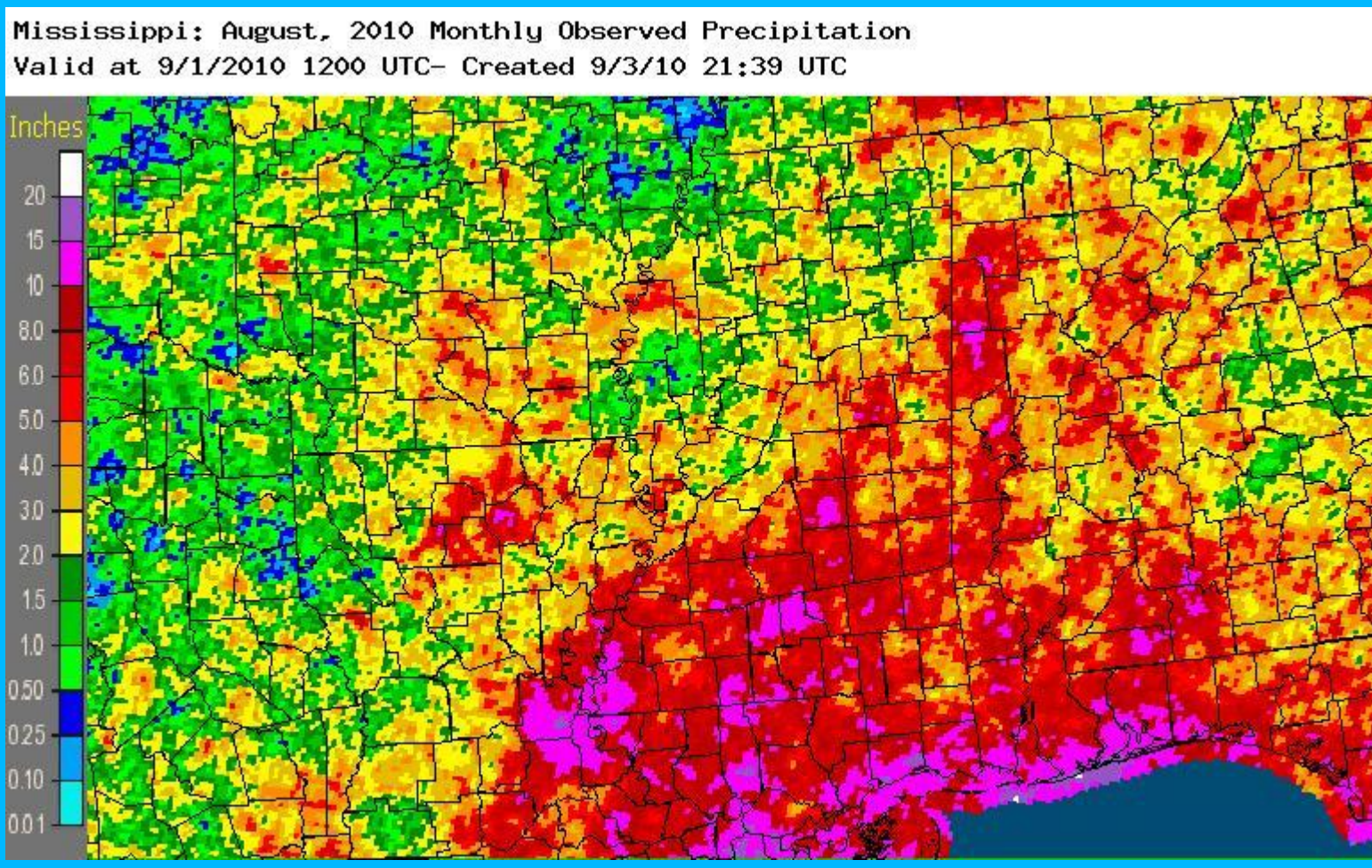
Based on current soil moisture conditions, current streamflow conditions, and an expected above normal rainfall over southern portions of the HSA and near normal over central and northern portions of the HSA, the flood potential for next 60 to 90 days is expected to be:

Pearl River System:	Normal.
Yazoo River System:	Below normal.
Big Black River System:	Normal.
Homochitto River System:	Normal.
Pascagoula River System:	Normal.
Northeast LA and Southeast AR:	Below Normal.
Tombigbee River System:	Below Normal.
Mississippi River:	Normal.

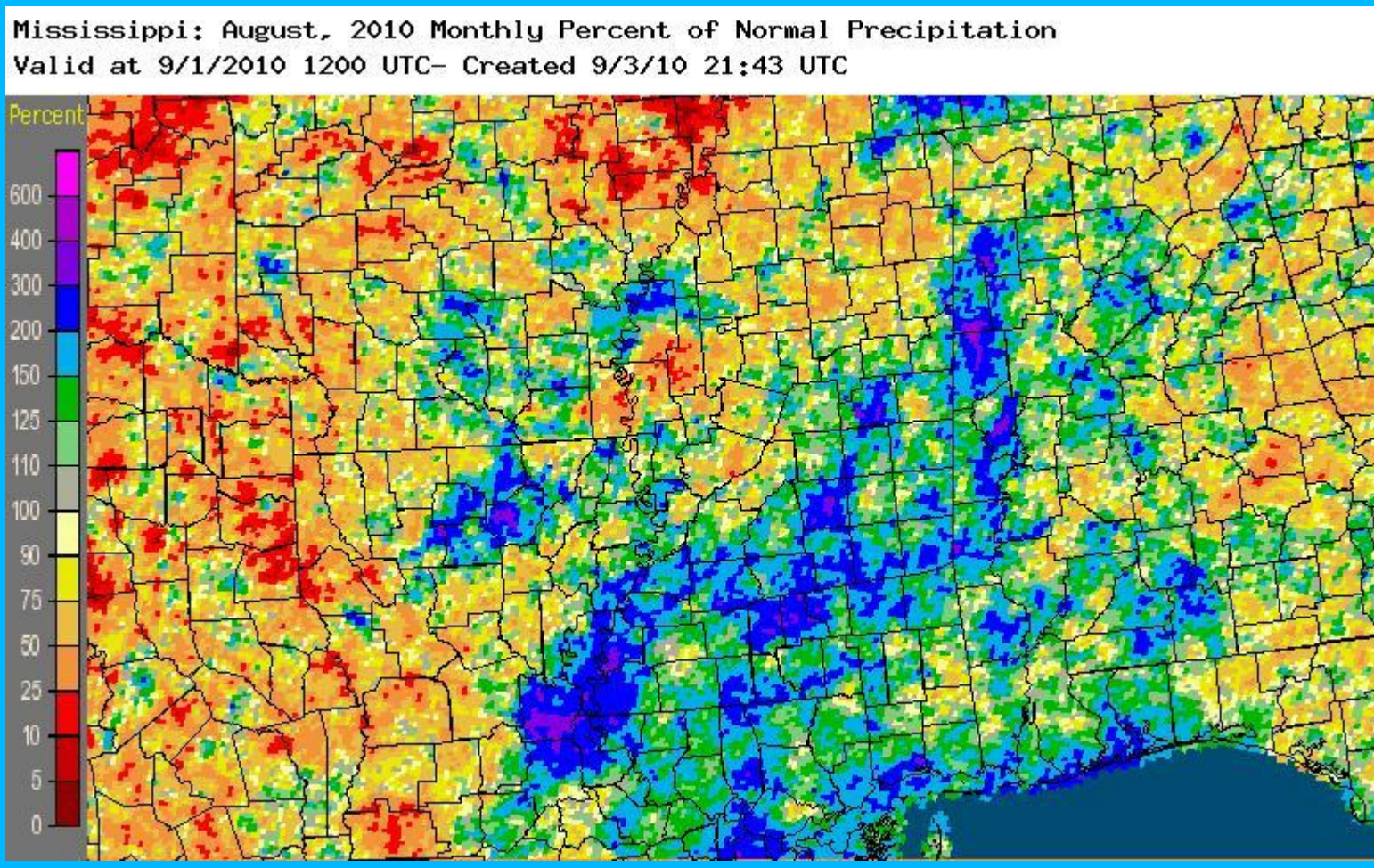
Rainfall for the month of August

The largest rainfall amounts in the HSA from NWS Cooperative Observer reports during the period from 7 am on July 31st until 7 am on August 31st were: 14.01 inches at Prentiss, MS; 13.30 inches at Clayton, LA; 11.90 inches at Natchez, MS; 9.55 inches at Forest, MS; 9.29 inches at Bay Springs, MS; 9.06 inches at Pat Harrison Waterway's Big Creek Water Park, MS; 9.04 inches at Pat Harrison Waterway's Archusa Water Park, MS; 9.03 inches at Jonesville Lock and Dam, LA; 8.75 inches at Purvis, MS; 8.74 inches at Union Church, MS; and 8.53 inches at Hattiesburg 5SW, MS.

The lowest rainfall totals in the HSA were 0.37 inches at Portland, AR; .047 inches at Stoneville and Leland, MS; 0.72 inches at Satartia, MS; .93 inches at Cleveland, MS; and 0.96 inches at Moorhead, MS



August 2010 Rainfall Estimate



August 2010 Percent of Normal Rainfall Estimates

Note: Observer rainfall and MPE may differ due to time differences.

August rainfall for Selected Cities...

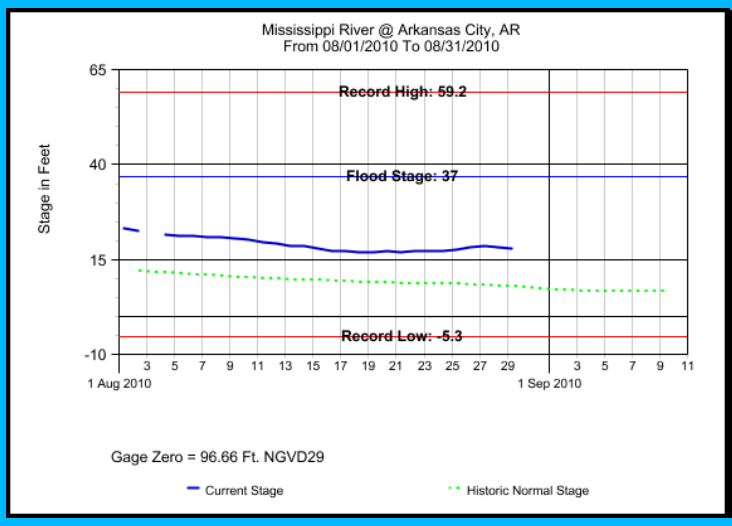
City (Airport)	August Rainfall	Departure from normal	2010 Rainfall	2010 Departure from Normal
Jackson, MS	8.26	+4.60	35.24	-3.68
Meridian, MS	4.34	+1.00	33.27	-8.20
Greenwood, MS	1.12	-1.32	25.85	-7.67
Greenville, MS	0.96	-1.24	M	M
Hattiesburg, MS	*4.43E	-0.41	31.77E	-7.65E
Vicksburg, MS	4.03	+0.96	19.68	-14.69

* Hattiesburg HBG had missing data during the month.

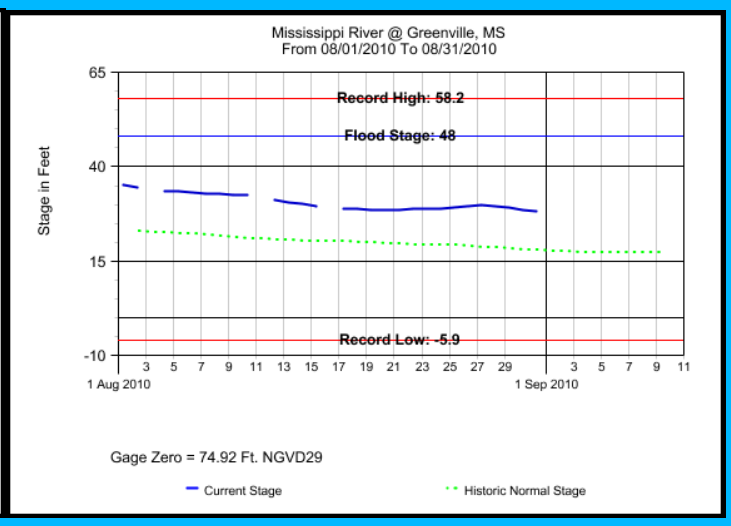
Mississippi River...

Mississippi River Plots for August, 2010

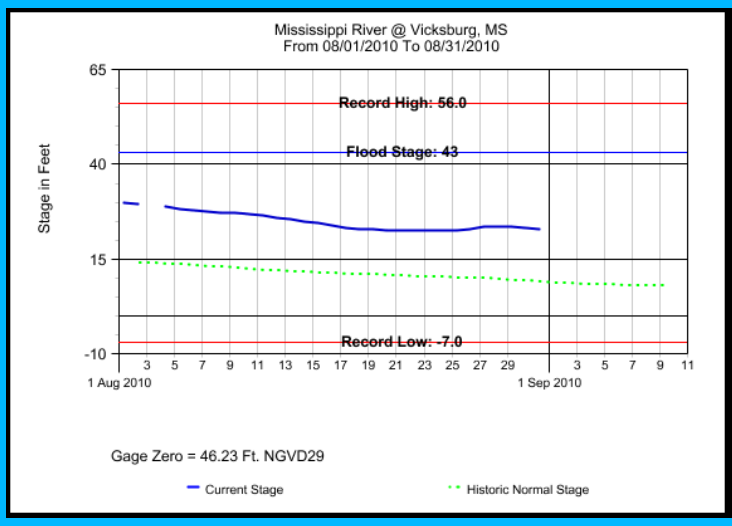
Plots Courtesy of the United States Army Corps of Engineers



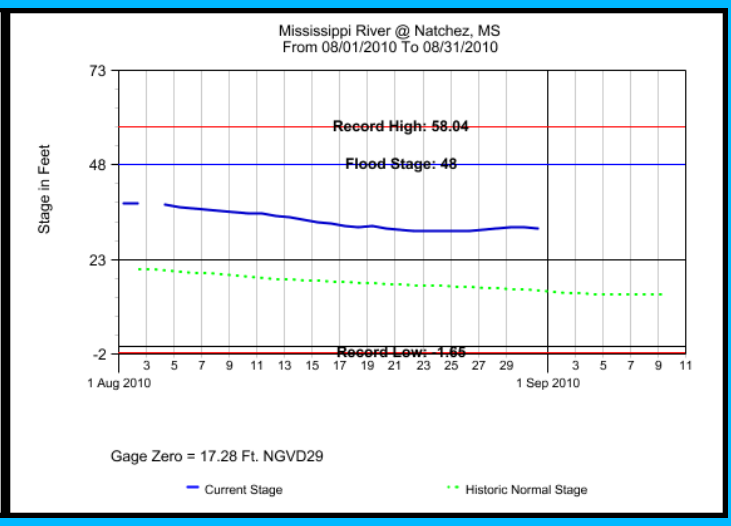
Arkansas City, AR



Greenville, MS



Vicksburg, MS



Natchez, MS

Preliminary high and low stages for the month:

Location	FS	High Stage(ft)	Date	Low Stage(ft)	Date

Arkansas City, AR	37	23.17	08/01/10	16.43	08/31/10
Greenville, MS	48	35.19	08/01/10	27.75	08/31/10
Vicksburg, MS	43	30.00	08/01/10	22.34	08/31/10
Natchez, MS	48	37.91	08/01/10	30.41	08/25/10

Total Flood Warning products issued: 0
Total Flood Statement products issued: 0
Total Flood Advisories MS River : 0
Daily Rainfall Products (RRA'S) issued: 31
Daily River Forecast Products (RVS'S) issued: 31
Daily River Stage products (RVA'S) issued: 31

Marty V. Pope

Service Hydrologist

&

Latrice Maxie

Assistant Hydrologist/Observing Program Leader (OPL)

Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.
cc: USGS Little Rock District
USGS Ruston District
USACE Mobile District
USACE Vicksburg District
USACE Mississippi Valley Division
USGS Mississippi District
SRH Climate, Weather and Water Division
Lower Mississippi River Forecast Center
Pearl River Valley Water Supply District
Hydrologic Information Center
Southern Region Climate Center
Pat Harrison Waterway District
Pearl River Basin Development District